

REMARKS

The comments and rejections contained in the Office Action dated October 15, 2002 have been carefully considered and this amendment and reply prepared in response. Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and the following remarks.

After amending the claims as set forth above, claims 1 – 9 and 12 – 17 are pending in this application.

In the Office Action, six paragraphs of the substitute specification were objected to for containing formality errors; the drawings were objected to for failing to disclose all elements recited in the claims; claims 1 and 12 were objected to as being literally inconsistent with the specification; claims 2 – 9 and 13 – 17 were objected to for depending from objected to claims; and claims 10 and 11 were objected to and rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 3,497,027 to Wild. The Office Action explained that the drawing objection to claims 16 and 17 would be withdrawn if figure 4 is amended to add the term “Internal/External combustion engine,” or similar, to the box labeled 21. The Office Action also agreed with Applicants’ arguments concerning the subject matter of claim 14, but disagreed such arguments overcomes the requirement in 37 C.F.R. 1.83(a) that every feature in a claim be shown in a figure.

Applicants wish to express their appreciation for the Examiner’s statement that claims 1 – 9 and 12 – 17 would be allowable if claims 1 and 12 are amended to overcome the objections set forth in the Office Action. In order to expedite allowance of this application, the foregoing amendments and the proposed change to figure 4 incorporate the Examiner’s suggestions. Further, claim 14 has been amended to delete the term “scissor type” in order to resolve the remaining drawing objection. Also, while Applicants maintain that claims 10 and 11 are allowable over the Wild reference, these claims are cancelled to place this application in condition for immediate allowance. Applicants intend to pursue the subject matter of those claims in a continuation application. Accordingly, Applicants believe the application is now in condition for allowance and early notification to that effect is earnestly requested.

Objections to Claims 1 and 12 are Overcome by Argument and Amendment

Applicants disagree that the specification limits the capacity of the batteries to something less than the peak power demand of the machine or vehicle. The discussion in the specification highlighted by the Examiner (paragraph [0052] which is similar to paragraph [0038]) merely explains how the power control module functions when the electrical generator is operating and power demand exceeds the capacity of the electrical generator, i.e., additional power is drawn from the battery to meet the peak demand. However, this paragraph does not suggest an upper limit on the power capacity of the battery. The specification at paragraph [0014] teaches that an embodiment of the invention enables the machine/vehicle to operate on battery power alone if desired. Paragraphs [0040] and [0055] teach that the electrical generator can be shut down, to operate on battery power alone, when operating in locations where the heat and fumes of the electrical generator are unacceptable. The specification explains in paragraphs [0033] through [0037] and [0048] through [0056] the various design considerations and operational parameters that are considered in designing and operating the battery, none of which state that the battery capacity is limited to less than the machine/vehicle peak power demand. In particular, paragraph [0033] teaches that the battery may be sized to provide a certain ampere-hour and kilowatt-hour capacity. One skilled in the art knows that battery capacity is defined more by storage capacity (e.g., kilowatt-hours) than by the peak power capacity, and that a battery's capacity to meet a peak power demand depends on its state of charge at the time of the demand as well as its design. Thus, the discussion in the specification does not, and should not be read to limit the capacity of the batteries to something less than the peak power demand of the machine/vehicle.

Nevertheless, in order to expedite allowance of the application, Applicants have amended claims 1 and 12 for clarification purposes as suggested by the Examiner. Specifically, these claims now recited that the battery is sized to supply at least that portion of the peak power requirement of the electric machine/vehicle not supplied by the electrical power generator. Applicants respectfully submit that the amendments overcome the objections set forth in the Office Action, and place these claims in condition for allowance. Therefore, withdrawal of the objections to these claims is respectfully requested.

Amended Claim 14 is Supported by the Figures

Claim 14 is amended to delete the term "scissor type." As a result of this broadening amendment, claim 14 relates to a work platform including a lift mechanism. Figure 5 discloses a vehicle that includes surfaces suitable as work platforms and a lift mechanism. While Applicants maintain that the scope of claim 14 is not limited by what is shown in figure 5, this figure nevertheless illustrates one possible configuration of the elements recited in the claim. Accordingly, withdrawal of the objection to the figures based on claim 14 is respectfully requested.

Conclusion

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

Date February 12, 2003

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MARKED UP VERSION SHOWING CHANGES MADE

Below is the marked up paragraph [0035] in the specification showing the changes made:

[0035] In addition, the battery 1 voltage will drop when supplying current to a connected electrical load. The reduction in voltage will be greater with increasing current drawn from the battery 1 and may reach a value of 0.2 volts per cell or more. For the illustrative example, this translates to $48\text{ v} - \{0.2\text{ v/cell}\}\{24\text{ cells}\}$ $(0.2\text{ v/cell})(24\text{ cells})$ or 43.2 volts for a fully charged battery 26 or $42\text{ v} - \{0.2\text{ v/cell}\}\{24\text{ cells}\}$ $(0.2\text{ v/cell})(24\text{ cells})$ or 37.2 volts when fully discharged.

[0047] The second preferred embodiment of the invention is presented schematically in FIG. 4. As shown in the schematic, solid lines depict the flow of power whereas dashed lines depict the flow of information such as commands and sensed parameter feedback. Referring now to FIG. 4, the battery 26[], electronic controls 24, and host vehicle 31 power input 27 are electrically connected in parallel on a single bus 17. The control electronics 24 will rectify and condition the electrical energy from the generator 22 and supply current to the bus 17. The electronic controls 24 are arranged to continuously and automatically modulate the electrical current to the bus 17 in consonance with its measured electrical potential to automatically accommodate a rapidly varying power demand.[.]

Below are the marked up amended claim(s):

1. (Twice Amended) A removable power source for use in a host machine that operates on electrical power, the host machine having a peak power demand, comprising:

a housing[];

an electrical power generator disposed within said housing and

sized to supply less than the peak power demand of the host machine;

a battery disposed within said housing, said battery sized to supply at least that portion of the peak power demand of the host machine not supplied by the electrical power generator;

[an electrical power generator disposed within said housing and sized to supply less than the peak power demand of the host machine;] and

a power control module disposed within said housing and coupled to said battery and said electrical power generator and arranged to supply power to the host machine from either said battery or said generator or from both said battery and said generator.

12. (Twice Amended) An electric vehicle having a peak power requirement, comprising:

a power source electrically coupled to the electric vehicle, said power source comprising:

a housing[.];

an electrical power generator disposed within said housing and sized to supply less than the peak power requirement of the electric vehicle;

a battery disposed within said housing, said battery sized to supply at least that portion of the peak power requirement of the [host machine] electric vehicle not supplied by the electrical power generator; and

a power control module disposed within said housing and coupled to said battery, to said electrical power generator and to said electric vehicle, said power control module configured to supply power to the electric vehicle from either said battery or said generator or from both said battery and said generator [, and

an electrical power generator disposed within said housing and coupled to said power control module, said electrical power generator sized to supply less than the peak power requirement of the electric vehicle].

14. (Amended) The vehicle disclosed in claim 12 wherein said vehicle is a work platform further comprising a [scissor type] lifting mechanism coupled to said [chassis] electric vehicle.